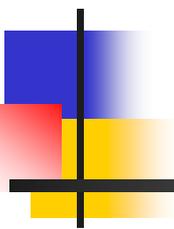


Effects of State Corporate Income Tax Policy: Lessons Learned



Sanjay Gupta

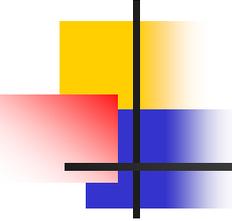
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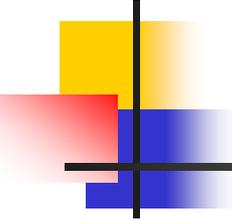
Presentation at the MTC's Annual Conference

Salt Lake City, July 2003



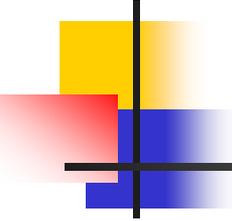
Outline

- Lessons from macro evidence
 - Effects on real economic activity (labor, investment)
 - Effects on state corporate tax revenues
- Lessons from micro evidence
 - Evidence on firm-level state effective tax rates



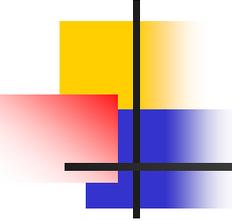
Effect on Employment

- Goolsbee & Maydew (2000)
 - Use panel data from 1978 to 1994
 - Double-weighting the sales factor increases manufacturing employment in the state by 1.1%



Effect on Investment

- Several studies
 - Carlton (1979, 1983) – examined location decisions of firms; state corporate tax rate not significant
 - Papke (1987, 1991) – regressed new capital expenditures on three measures of tax burden; only the simulated after-tax return measure was significant
 - Tannenwald (1996) – reexamined Papke’s result with newer data; tax effect was smaller and statistically insignificant
 - Weiner (1996) – found formula apportionment has no independent effect on capital-labor ratios and only marginally significant effects on capital spending when examining apportionment changes from 1982 to 1990

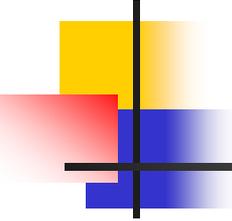


Effect on Investment (cont.)

- Gupta & Hofmann (2003)

"The Effect of State Income Tax Apportionment and Tax Incentives on New Capital Expenditures," *The Journal of the American Taxation Association* 25 (Supplement 2003), forthcoming.

- Do states with lower *income tax burden on property* experience a higher level of new capital spending by corporations?
 - $BURDEN = (\text{top statutory tax rate}) * (\text{property factor weight})$
- Do states with more *investment-related tax incentives* experience a higher level of new capital spending by corporations?
- Do the above effects differ in states whose *tax base* is determined using "unitary taxation" or a "throwback rule"?



Gupta & Hofmann (2003): Empirical Procedures

- Data

- New capital expenditures in the manufacturing sector
- 44 states with a corporate income tax for the period 1983-1996 (14 years)

- Methodology

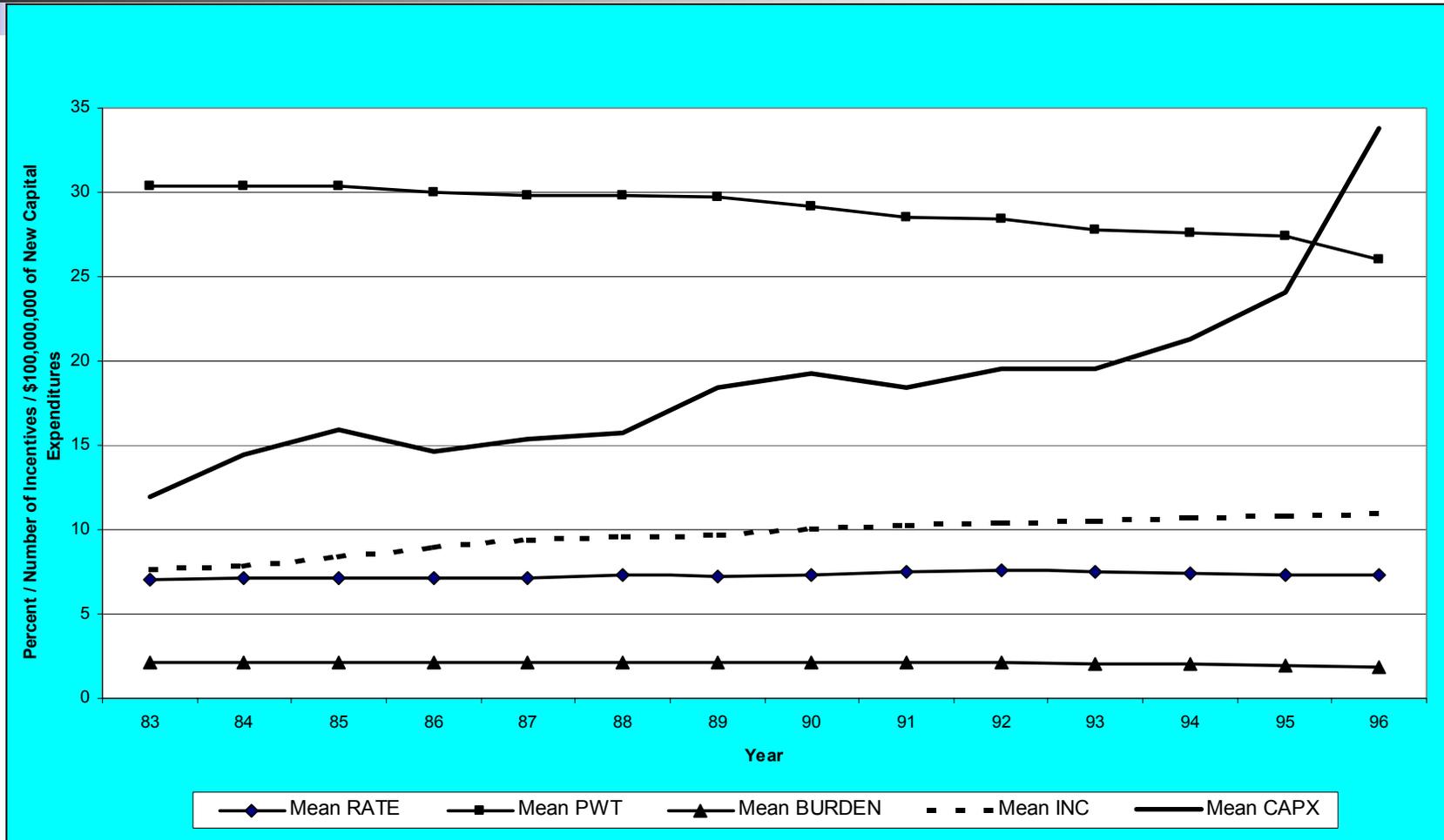
- Controls for size of the manufacturing sector, census region, energy costs, public expenditures, state fixed-effects
- Sensitivity tests: all 50 states, separation of rate and factor weight, annual regressions, varying definition of unitary

Trends in Sales Factor Weights in Apportionment Formulae, 1983-96

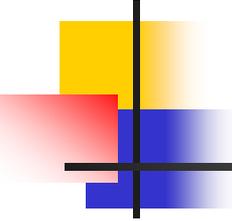


Source: Gupta & Hofmann (2003)

Trends in Tax Variables and New Capital Spending, 1983-96

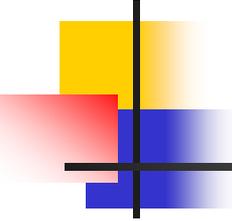


Source: Gupta & Hofmann (2003)



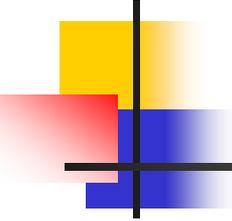
Gupta & Hofmann (2003): Results and Conclusions

- State corporate income tax policies do have a (statistically) significant influence on new capital spending in the state
 - New capital spending is negatively associated with BURDEN, and positively associated with investment-related tax incentives
- However, the estimated magnitude of these effects is VERY modest
 - 1% decline in BURDEN is associated with a \$2-6 million increase in new capital spending
 - An additional investment-related incentive is associated with a \$0.5-2.5 million increase in new capital spending



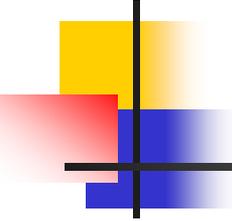
Gupta & Hofmann (2003): Conclusions – cont.

- Rates, apportionment factor weights, and investment-related incentives are more influential on new capital spending in unitary and/or throwback states
- Triangulating this study with prior research suggests the following hierarchy of the relative importance of state income tax regimes
 - Unitary/Throwback definition of tax base
 - Tax rates/apportionment factor weights
 - Investment-related tax incentives



Effect on State Corporate Income Tax Revenues

- Prior research
 - Klassen & Shackelford (1998)
 - Edmiston (2002)
 - Fox & Luna

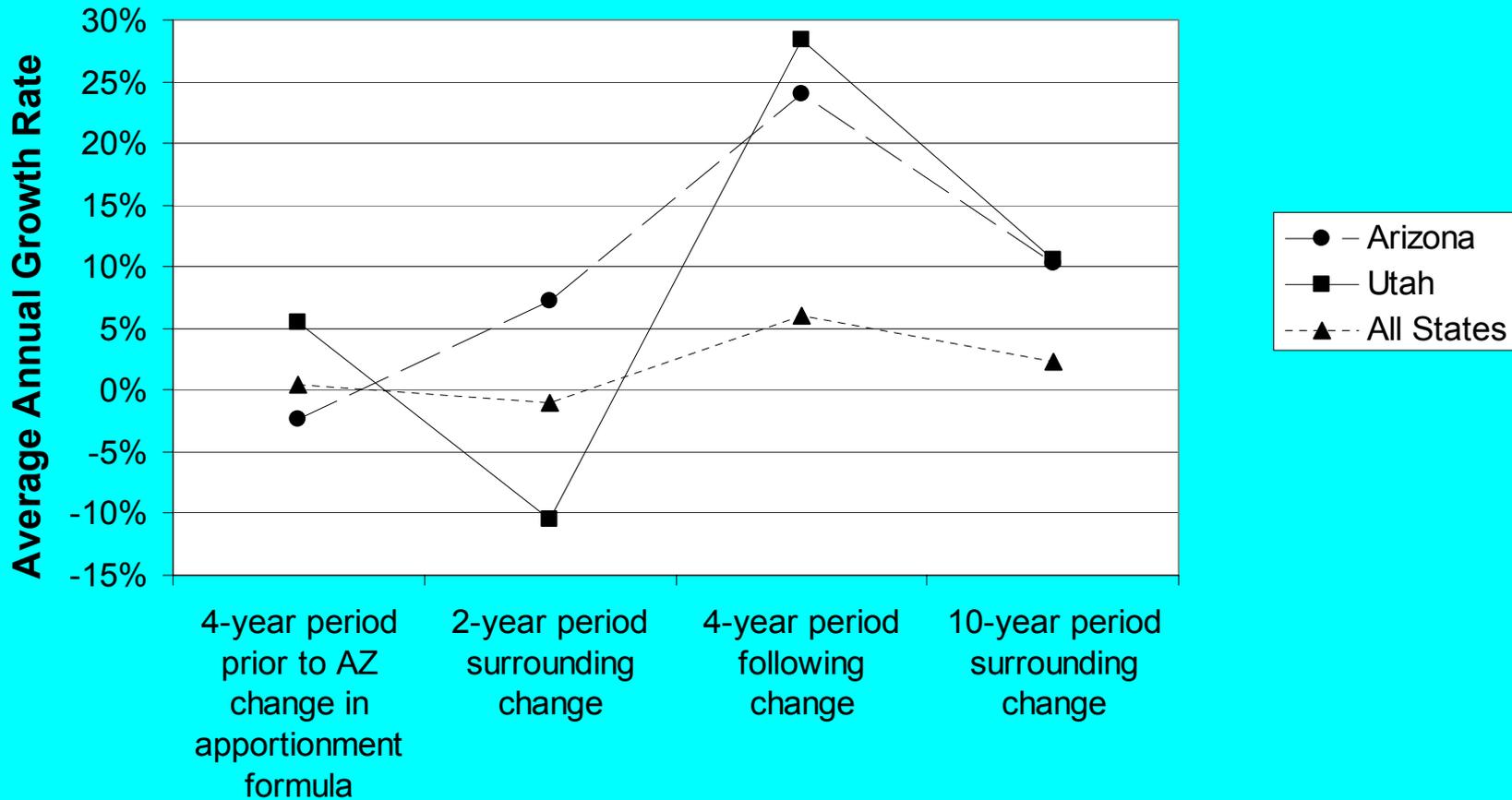


New Analysis

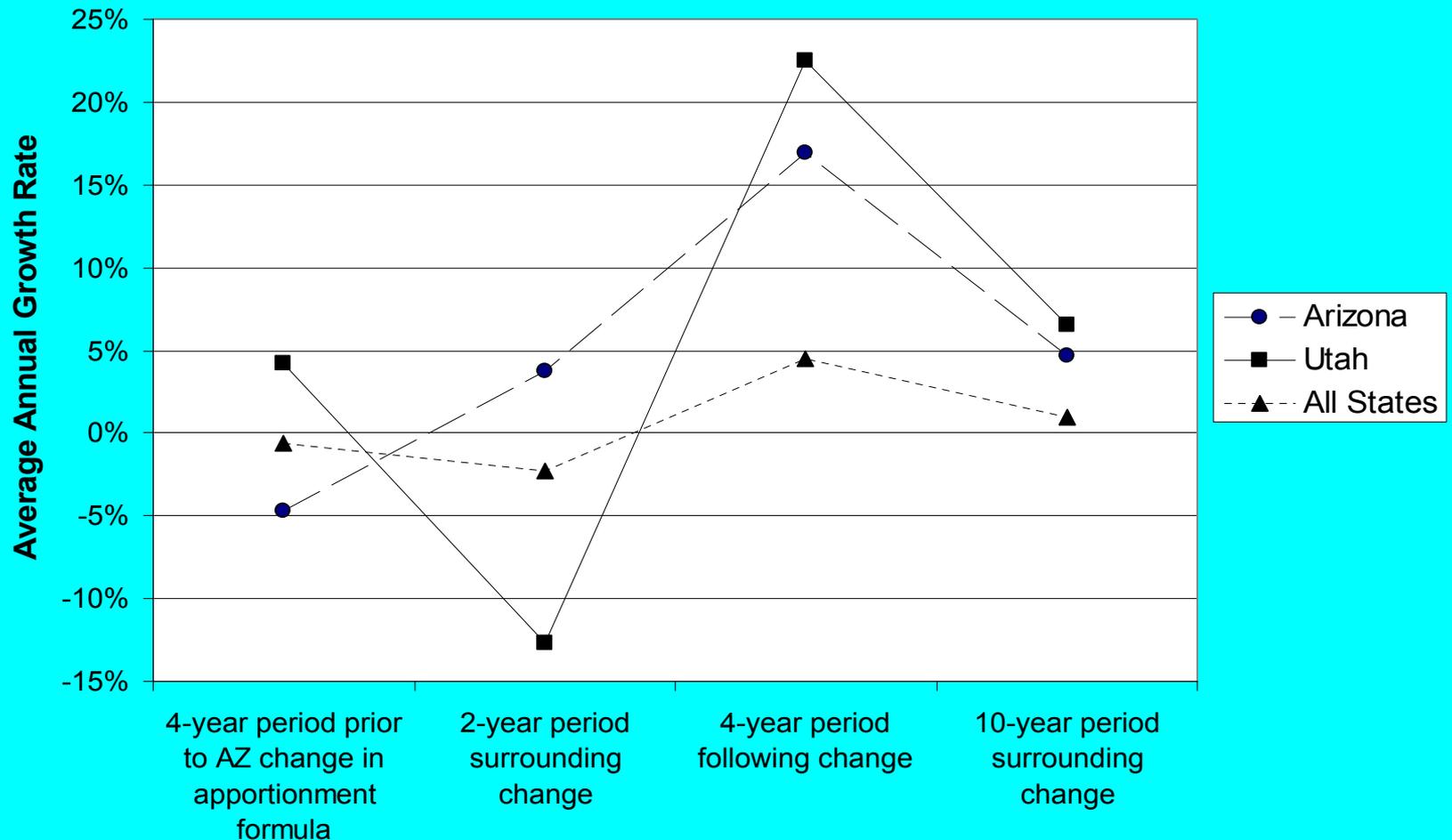
Gramlich, Gupta & Hofmann (2003)

- Analysis of certain states that changed apportionment factor weights with neighboring no-change states
- 4 pairs of change v. no-change states
 - Arizona v. Utah
 - Maine v. Vermont
 - Nebraska v. Kansas
 - Oregon v. Colorado
- AZ, ME, NE and OR changed the weight on their sales factor in 1990-91

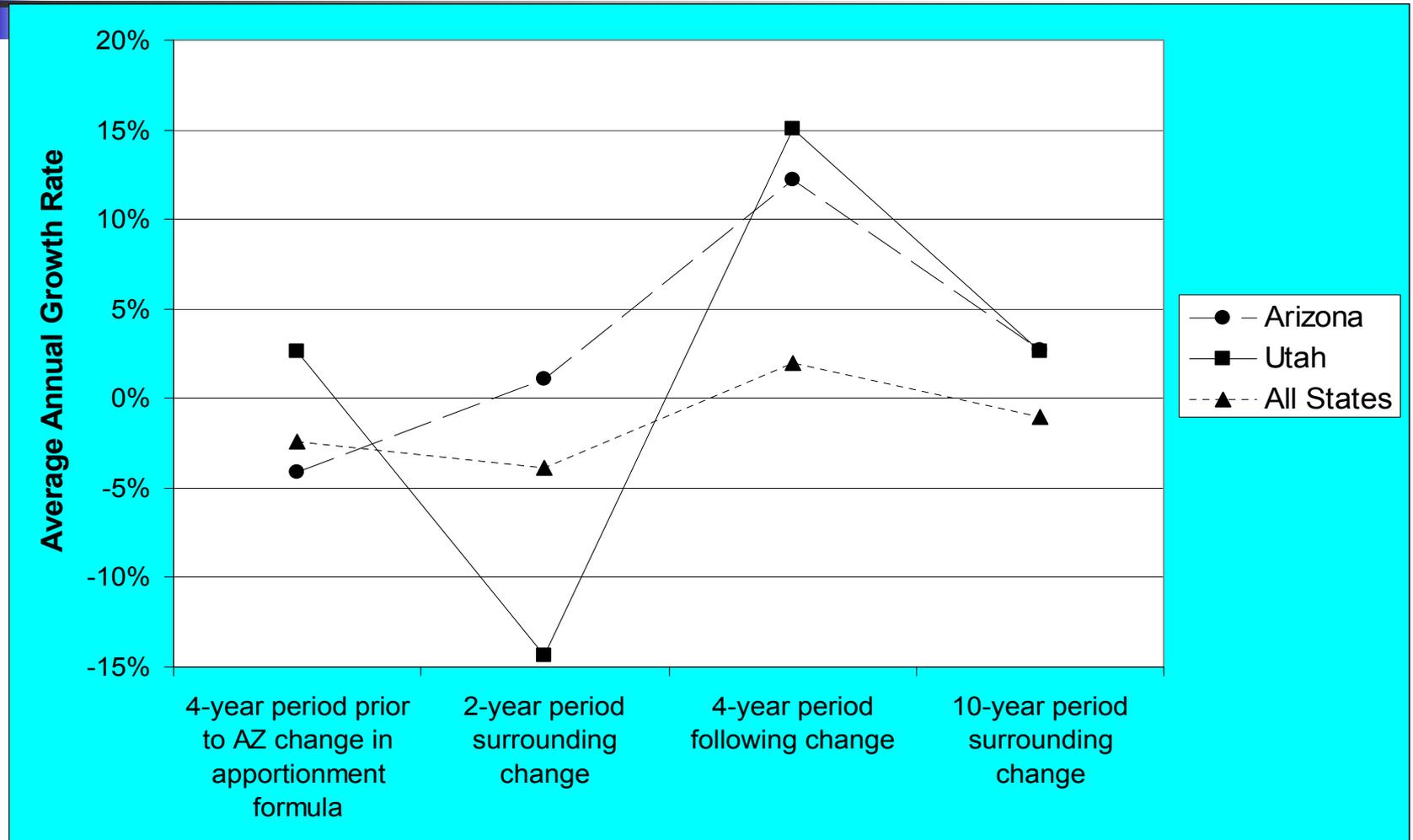
AZ v. UT: Average Annual Growth in State Corporate Income Tax Revenues

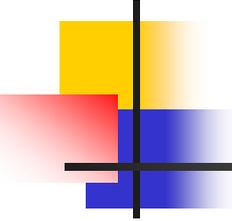


AZ v. UT: Average Annual Growth in Per-Capita State Corporate Income Tax Revenues



AZ v. UT: Average Annual Growth in State Corporate Income Tax Revenues as a Percentage of GSP





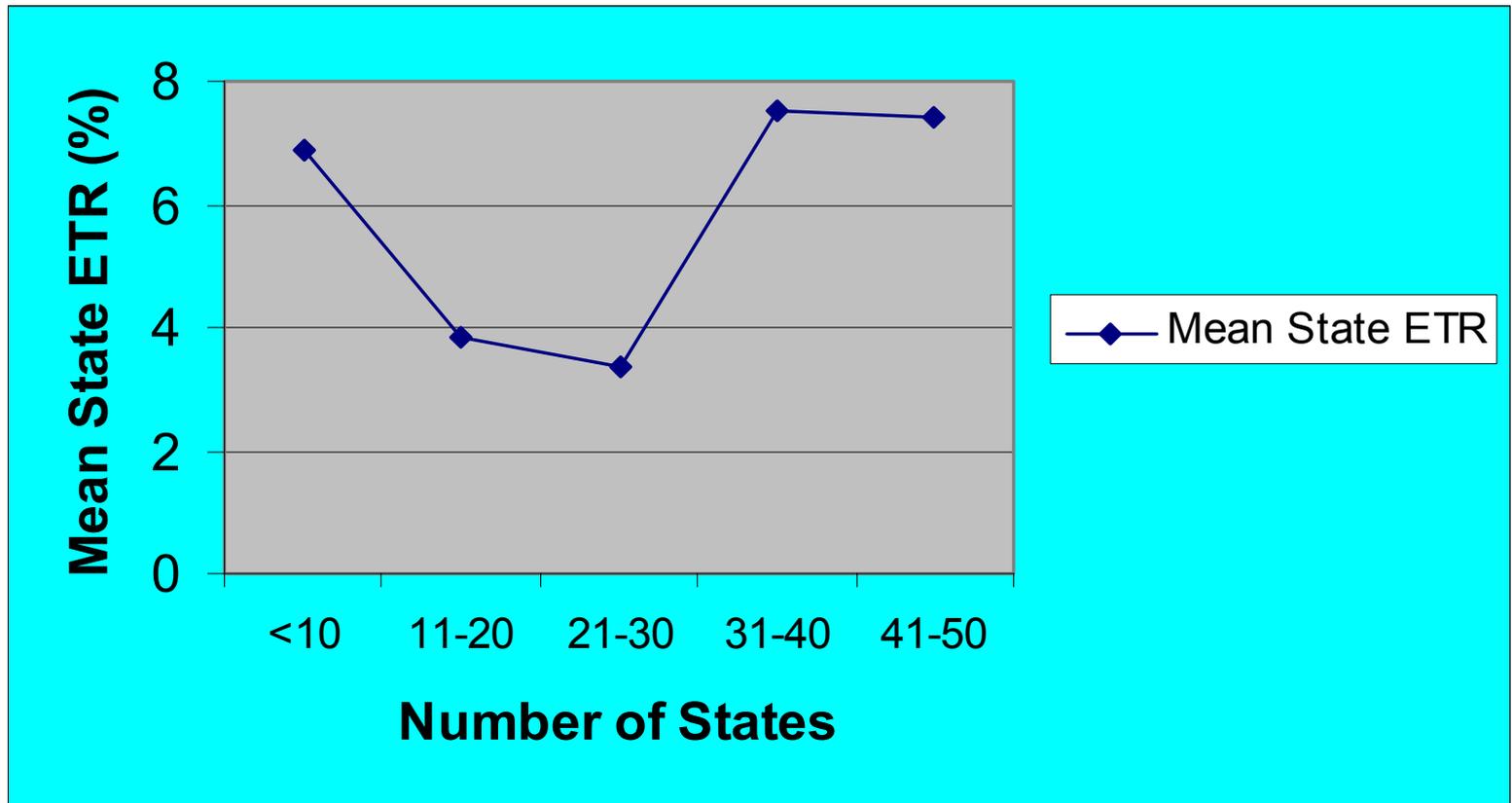
Firm-level Analysis

- **Gupta & Mills (2002)**

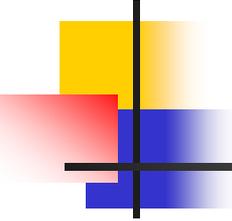
"Corporate multistate tax planning: Benefits of multiple jurisdictions," *Journal of Accounting & Economics* 33 (February 2002): 117-139.

- Investigate how firms use differences in state income tax regimes to lower their state tax burdens
- Develop a model that predicts that firms' state effective tax rates (SETR) first increase and then decrease as a function of the number of states in which they file
- Find evidence consistent with the model's predictions

Mean State Effective Tax Rate



Source: Gupta & Mills (2002)



Firm-level Analysis (cont.)

- Gramlich, Gupta & Hofmann (2003)